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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/625,843	07/26/2000	Hiroki Hiyama	35.C14640	7974

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NEW YORK, NY 10112

EXAMINER

SOLOMON, GARY L

ART UNIT	PAPER NUMBER
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2615

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DATE MAILED: 04/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/625,843

Applicant(s)

HIYAMA ET AL.

Examiner

Gary L Solomon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. Figure 1A and 1B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4 and 8-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kozuka (US 6,538,693).

4. For claim 1, Kozuka discloses an image pickup device comprising:

pixels each including a photoelectric conversion unit (Figure 1A) and a transfer switch (Figure 1A, Element 4) for transferring photoelectric conversion signal generated by the photoelectric conversion unit; and

driving means for applying a pulse (Figure 1A, 1B, Phi T1) to the transfer switch (Figure 1A, Element 4) a plurality of times when the signal generated by the photoelectric conversion unit is transferred via the transfer switch (Figure 1B; Phi T1 is pulsed twice during the accumulation period.).

For claim 2, Kozuka discloses all the previous limitations of claim 1, and also wherein said pixel includes amplifying means (Figure 1A, Element 3; The transistor is an amplifier. It then outputs the photoelectric conversion signal to the transfer switch.) for amplifying and outputting the photoelectric conversion signal transferred via the transfer switch (Figure 1A).

For claim 3, Kozuka discloses all the previous limitations of claims 1 and 2, and also wherein said driving means has an operation mode for resetting an input portion of said amplifying means (Figure 1A, Element Reset Unit resets the amplifying transistor (3)) and outputting a reset signal generated upon resetting from said amplifying means (the amplifying transistor outputs the signal to the switching transistor; Column 4, Lines 61-64) and an operation mode for outputting the photoelectric conversion signal from said amplifying means (the photoelectric conversion unit outputs the signal to the switching transistor), and wherein said image pickup device further comprises subtracting means for subtracting the reset signal from the photoelectric conversion signal (Column 7, Lines 39-45).

For claim 4, Kozuka discloses all the previous limitations of claims 1, 2, and 3, and also wherein the photoelectric conversion signal and the reset signal include correlated signals (Column 8, Lines 19-25; The signals are correlated because they are from the same sensor reset signal.).

Claims 8 through 11 are method claims for the apparatus of claims 1 through 4. They have been analyzed and are rejected under the same grounds as claims 1 through 4.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-7 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kozuka (US 6,538,693).

For claim 5, Kozuka discloses all the previous limitations of claim 1, and also further comprising a circuit for controlling a read operation of a signal from said pixel (Inherently, there is a control circuit that controls the timing shown in Figure 1B.) or processing the signal from said pixel, wherein the transfer switch (Figure 1A, Element 4) includes a MOS transistor (Column 4, Line 62).

Kozuka does not disclose teaching wherein said pixel and said circuit are formed by CMOS processes. However, official notice is given that is well known to use CMOS processes to fabricate MOS transistors. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention construct the MOS device of Kozuka using a CMOS process in order to make use of well-established fabrication procedures.

For claim 6, Kozuka discloses all the previous limitations of claims 1 and 2, and also further comprising a circuit for controlling a read operation of a signal from said pixel (Inherently, there is a control circuit that controls the timing shown in Figure 1B.) or processing the signal from said pixel, wherein the transfer switch (Figure 1A, Element 4) includes a MOS transistor (Column 4, Line 62).

Kozuka does not disclose teaching wherein said pixel and said circuit are formed by CMOS processes. However, official notice is given that is well known to use CMOS processes to fabricate MOS transistors. Therefore, it would have been obvious to one of ordinary skill in

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the art at the time of the invention construct the MOS device of Kozuka using a CMOS process in order to make use of well-established fabrication procedures.

For claim 7, Kozuka discloses all the previous limitations of claim 1, but lacks specific teaching of teaching a circuit for processing a signal from its pixels and a lens for focusing light onto said photoelectric conversion unit.

However, cameras (as used with the Kozuka device in Column 1, Line 20) containing image sensors clearly comprise a circuit for processing a signal from its pixels and a lens for focusing light onto its photoelectric conversion unit are well known in the art. Official Notice is hereby given.

Claims 12 through 13 are method claims for the apparatus of claims 5 and 6. They have been analyzed and are rejected under the same grounds as claims 5 and 6.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary L Solomon whose telephone number is (703)-305-4370.

8. The examiner can normally be reached on Monday - Friday 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's primary, Vu Le can be reached on (703)-308-6613.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9314, (for informal or draft communications, please label
"Proposed" or "Draft")


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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the customer service number (703) 306-0377.



April 16, 2004



ANDREW CHRISTENSEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600